

SECTION 02285 - BASALTIC TERMITE BARRIER SYSTEM

PART 1 - GENERAL

1.01 GENERAL CONDITIONS

As specified in Section 00700.

1.02 GENERAL REQUIREMENTS

- A. Work Included: The work of this Section includes the furnishing and placing of graded basaltic **termite barrier material** on the excavated building foundation to provide a barrier against subterranean termite intrusion.

As an alternative to the Basaltic Termite Barrier System, the contractor may elect to provide the Termi-mesh System as specified in Section 02287 - Termite Control Barrier System.

- B. Related Work:

1. Excavation, utility trenching, backfilling:
Section _____

2. Cast-in-place oncrete: Section 03300.

1.03 REFERENCE DOCUMENTS

The following documents form a part of these specifications to the extent they are referenced herein:

- A. ASTM C 128-**97**: Specific Gravity and Absorption of Fine Aggregates.
- B. ASTM C 131-**96**: Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine.
- C. ASTM C 136-**96a**: Sieve Analysis of Fine and Coarse Aggregates.
- D. ASTM C 289-**94**: Potential Reactivity of Aggregates (Chemical Method).

1.04 SUBMITTALS

Submit certification from the material producer that the material supplied complies with the requirements of these specifications.

1.05 STORAGE AND HANDLING

Store and handle the material so as to prevent

Refer to Technical Memorandum #61 dated Rev. 12/07/98 and sample details for guidance regarding the use of BTB material, Termi-mesh and Termite Resistive Construction.

Note: This Guide Spec Section supercedes the Guide Spec dated Rev. 03.07.88 that was prepared by Ameron.

Be sure to prepare and add this section to your specs.

Indicate section no.

contamination by dirt, water and organic material.

1.06 WARRANTY

The Contractor shall warrant the system against subterranean termite intrusion for a period of two (2) years from the date of project acceptance. All necessary repairs of damages resulting from subterranean termite infestation within the two year period, including the extermination of all infestation, shall be made at the Contractor's own expense up to a total cost of \$50,000.00 as verified through cost breakdown in accordance with the Interim General Conditions.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Basaltic Termite Barrier (BTB) Material: Clean, dry, **basaltic aggregate** material manufactured from crushed basalt rock and meeting the following requirements:

1. Material Gradation (**per** ASTM C 136):

<u>Sieve</u> <u>Size</u>	<u>Percent</u> <u>Passing</u>
No. 4 (4.75 mm)	100
No. 8 (2.36 mm)	95 - 100
No. 10 (2.00 mm)	75 - 95
No. 12 (1.70 mm)	35 - 50
No. 16 (1.18 mm)	0 - 10

2. Specific Gravity: **2.80** when tested in accordance with ASTM C 128.
3. Silica Content: **45 percent** when tested in accordance with ASTM C 289.
4. Abrasion Loss: **20 percent** after 500 **revolutions** when tested in accordance with ASTM C 131.

The materials shall not contain aggregate that has formed into clumps.

- B. Vapor Barrier: **As specified** in Section 03300 - Cast-in-Place Concrete.
- C. Bio-Barrier: **Permeable geotextile fabric having a tensile strength of approximately 145 lbs., impregnated with time-release nodules of root**

growth inhibitors such as treflan herbicides.

- D. **Termite Barrier Mesh:** Type AIAA Marine Grade 316 stainless steel mesh of 0.18 mm diameter wire with a maximum mesh opening size of 0.66 x 0.45 mm, as manufactured by Termi-Mesh or approved equal.
- E. **Barrier Mesh Accessories:** Cementitious parging adhesive, clamps, ties and other accessories as recommended by the barrier mesh system manufacturer.

2.02 EQUIPMENT

- A. Equipment used to place BTB shall be free of dirt and other deleterious material so as not to contaminate the BTB.
- B. **Compaction:** Use power driven, vibrating-plate type tampers for large areas and rod-and-plate type hand tampers for small areas such as foundation and walk edges.

PART 3 - EXECUTION

3.01 PREPARATION

Prior to placing material, remove visible plant roots and standing water from the excavated area. **Inspect the subgrade, piping and conduits to ensure the minimum 4 inch cover over piping and conduits will be achieved.** Inspect the foundation perimeter to assure that there is sufficient room between the sides of excavations and edges of foundations and walks to provide the required barrier depth and width. Do not proceed with the work until discrepancies have been corrected.

Refer to DAGS Standard Details included under Tech Memo #61. Be sure to indicate the details on the drawings.

3.02 PLACEMENT

- A. **General:**
 - 1. The minimum effective depth of the BTB material shall be 4 inches. In no case shall the BTB material be placed in less than the 4 inch thickness.
 - 2. Place material in one lift for thicknesses of 6 inches or less and in successive lifts of 4

to 6 inches where the thickness indicated on the drawings is greater than 6 inches.
Compact each lift prior to placing successive lifts.

- B. BTB material shall not be placed directly onto sand and porous (e.g. loose gravel / rock) substrates. It shall be separated by a membrane such as polyethylene sheeting.

- C. Placement of BTB material beneath concrete slabs-on-grade: After the subgrade has been properly prepared, the BTB material shall be placed and compacted to a minimum thickness of 4 inches. For interior slabs, a vapor barrier shall be placed atop this layer.

- D. Placement of BTB material against the exterior face of CMU walls extending below grade: After placement of footings and walls and the removal of forms, remove dirt, loose concrete, and other debris from the excavated area. Install bio-barrier material against the exposed earth face and place BTB material. Provide a minimum 2 inch thick reinforced concrete topping atop the BTB material sloped to drain away from the building. Provide the topping with control and expansion joints to minimize cracking.

- E. Placement of BTB material beneath thickened perimeter foundation edges: Place BTB in the minimum thickness as described above. After concrete placement and form removal, remove dirt and debris that may have contaminated the BTB. Bring the vapor barrier up the sides of the foundation and place additional BTB material on the exterior side of the vapor barrier. Tamp the BTB material and provide a minimum 2 inch thick reinforced concrete topping atop the BTB material sloped to drain away from the building. Provide the topping with control and expansion joints to minimize cracking.

- F. The General Contractor shall coordinate the following work by other trades:
 - 1. The Contractor shall take the necessary precautions and modify his operations to avoid displacement and contamination of the BTB material during deposition of concrete and removal of forms and stakes.
 - 2. Plumbing, mechanical piping and electrical

Be sure to indicate the location of control and expansion joints on the drawings.

conduits shall not be placed horizontally within the 4 inch thick BTB layers beneath slabs-on-grade. They shall be placed in trenches beneath the 4 inch layer and shall only penetrate it vertically.

As an option, the Contractor may, at his own expense, provide a BTB layer exceeding the minimum 4 inch thickness to accommodate the placement of horizontal conduits and piping laid directly on a subgrade that has been rolled flat. However, the 4 inch thick effective depth of the BTB material atop the conduit and piping shall be maintained.

3. With the exception of insulated piping, where conduits and piping pass vertically through the BTB material, sleeves and wrappings shall be removed so that the BTB material directly abuts the pipe/conduit surface.
4. Insulated pipes: Provide a barrier mesh collar where insulated piping penetrates the BTB layer and slab-on-grade as detailed on the drawings.

3.03 CLEAN-UP

After placement of the basaltic termite barrier is complete, remove surplus materials from the site.

END OF SECTION